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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/444,298	11/22/1999	MAMORU NISHIMURA	PM-265035	8478

7590

04/19/2002

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EXAMINER

RUDNICK, DOUGLAS W

ART UNIT	PAPER NUMBER
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1764

6

DATE MAILED: 04/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-4

Office Action Summary	Application No.	Applicant(s)	
	09/444,298	NISHIMURA ET AL.	
	Examiner	Art Unit	
	Douglas W Rudnick	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Priority

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to

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whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 2 recites the broad recitation of a pore volume of at least 30%, and the claim also recites a pore volume of 35-80%, which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaguchi et al. (US 4849275) in view of Abe et al. (US 5680503).

With respect to claim 1:

Hamaguchi et al. discloses the invention substantially as claimed.

Hamaguchi et al. discloses :

Partition walls (Col. 5, lines 7-10).

Said partition walls being made of cordierite in a honeycomb fashion (Col. 3, lines 21-24).

Pore volume of partition walls is at least 30% (Col. 3, lines 26-28).

However, Hamaguchi et al. is silent to the cell density being at least 600 cells/in².
Abe et al. teaches a cell density of at least 600 cells/in² (Col. 8, lines 39-42) for the purpose of a more efficient catalytic monolith.

It would have been obvious to one of ordinary skill in the art at the time applicants' invention was made to have provided a cell density of at least 600 cells/in² in Hamaguchi et al. in order to have a more efficient catalytic monolith as taught by Abe et al.

With respect to claim 2:

Hamaguchi et al. discloses the invention substantially as claimed.

Hamaguchi et al. discloses :

A pore volume for the partition walls of 35-80% (Col. 3, lines 21-28)

With respect to claim 3:

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Hamaguchi et al. discloses the invention substantially as claimed. However, Hamaguchi et al. is silent to partition walls with a thickness no greater than 80 μm . Abe et al. teaches partition walls with a thickness no greater than 80 μm . (Col. 8, lines 39-40) for the purpose of more efficiently purifying harmful gas.

It would have been obvious to one of ordinary skill in the art at the time applicants' invention was made to have provided partition walls with a thickness no greater than 80 μm . in Hamaguchi et al. in order to more efficiently purifying harmful gas as taught by Abe et al.

With respect to claim 5:

Hamaguchi et al. discloses the invention substantially as claimed.

Hamaguchi et al. discloses :

Mean size of the fine pores in the partition walls is 1-10 μm . (Col. 3, lines 28-30)

With respect to claim 6:

Hamaguchi et al. discloses the invention substantially as claimed.

Hamaguchi et al. discloses :

A honeycomb structural body being a catalyst carrier (Abstract)

However, Hamaguchi et al. is silent to the catalyst being loaded on the surface of the partition walls. Abe et al. teaches the catalyst being loaded on the surface of the partition walls (Abstract) for the purpose of having a functional waste gas purifying device.

It would have been obvious to one of ordinary skill in the art at the time applicants' invention was made to have provided the catalyst being loaded on the surface of the partition walls in Hamaguchi et al. in order to have a functional waste gas purifying device as taught by Abe et al.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaguchi et al. in view of Abe et al., as applied to claim 1, and Kotani et al. (US 5545243).

The modified apparatus of Hamaguchi et al. discloses the invention substantially as claimed. However the modified apparatus of Hamaguchi et al. is silent to the average roughness of the surface of the partition walls being 1-5 μm . Kotani et al. teaches average roughness of the surface of the partition walls being 1-5 μm . (Fig. 3 and Table 2) for the purpose of improving filtration properties.

It would have been obvious to one of ordinary skill in the art at the time applicants' invention was made to have provided an average roughness of the surface of the partition walls being 1-5 μm . in the modified apparatus of Hamaguchi et al. in order to improve filtration properties as taught by Kotani et al.

Conclusion


8. The references US 6117377, US 5634952, US 5763347, US 4722916, and US 6077483 are cited to show state of art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas W. Rudnick whose telephone number is 703-305-3141. The examiner can normally be reached on M-F (8:30 am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Douglas W. Rudnick
Art Unit 1764

dwr
April 17, 2002


MARIAN C. KNODE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700